

### **EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with James E. Armstrong on 01/14/09.

#### **In the Specification:**

In the abstract, delete the second paragraph, lines 10-32.

#### **In the Claims:**

In claim 18, line 10, delete "." and insert --;--. In line 11, after 10, insert a period ---.

In claim 19, line 10, delete "." and insert --;--. In line 11, after "10", insert a period ---.

In claim 20, line 6, delete "." and insert --;--. In line 7, after ")", insert a period ---.

In claim 21, line 6, delete "." and insert --;--. In line 7, after ")", insert a period ---.

In claim 22, line 13, delete "." and insert --;--. In line 14, after " $V_r^{4.44}$ ", insert a period ---.

### **REASONS FOR ALLOWANCE**

2. The following is an examiner's statement of reasons for allowance: The prior art of record taken alone and in combination does not disclose "a method for assessing the remaining service life of a rolling bearing, characterized in comprising: measurement means whereby an accelerometer (4) is used to obtain vibration signals for the rolling bearing (3) whose remaining service life is being assessed and which resides on a fan, a pump, or another rotating device (1, 2), for the purpose of

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measuring signals in a frequency band that includes resonance frequency band signals detectable at the highest sensitivity; and determination means for estimating the state of wear particle penetration and the state of lubricant degradation of said diagnostic rolling bearing (3), and computing the remaining service life of said diagnostic rolling bearing (3) by using measurement values obtained by said measurement means, determination results relating to said bearing specifications, and data obtained by said baseline data acquisition means; wherein said determination means makes a determination regarding the model number, manufacturer name, and other bearing specifications for said diagnostic rolling bearing (3) after dividing the vibration waveform at 1 kHz to 6 kHz into 1/2-octave frequency bands to obtain a plurality of bands for said diagnostic rolling bearing (3), performing envelope processing for the waveforms of each frequency band, and computing a frequency spectrum” as recited in claim 1 and “measurement means whereby an accelerometer (4) is used to obtain vibration signals for the rolling bearing (3) whose remaining service life is being assessed and which resides on a fan, a pump, or another rotating device (1, 2), for the purpose of measuring signals in a frequency band that includes resonance frequency band signals detectable at the highest sensitivity; and determination means for estimating the state of wear particle penetration and the state of lubricant degradation of said diagnostic rolling bearing (3), and computing the remaining service life of said diagnostic rolling bearing (3) by using measurement values obtained by said measurement means, and data obtained by said baseline data acquisition means; wherein said determination means

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calculates the relative sensitivity of an effective value in two frequency bands, which are a wide band and a narrow band that includes the sensor resonance frequency band, from vibration signals having a frequency band of 1 kHz to 64 kHz for said diagnostic rolling bearing (3); determines whether a quantitative feature that is the product of the relative sensitivity of a narrow-band effective value and the relative sensitivity of the wide-band effective value exceeds a threshold value; and makes a determination of "normal" when the threshold value is not exceeded" as recited in claim 10. These limitations are neither taught nor made obvious by the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J M. SAINT SURIN whose telephone number is (571)272-2206. The examiner can normally be reached on Mondays to Fridays between 9:30 A.M and 6:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron L. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jacques M SAINT SURIN/

Examiner, Art Unit 2856

/Hezron Williams/

Supervisory Patent Examiner, Art Unit 2856